



IFW16

## RAW SEQUENCE LISTING

DATE: 07/29/2004

PATENT APPLICATION: US/09/618,380C

TIME: 09:31:19

Input Set : A:\SEQLIST4920USv3.txt

Output Set: N:\CRF4\07292004\I618380C.raw

3 <110> APPLICANT: Weiner, George  
 4     Gingrich, Roger  
 5     Link, Brian  
 6     Tso, J. Yun  
 8 <120> TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST CD3  
 10 <130> FILE REFERENCE: 05882-0176-CNUS03  
 12 <140> CURRENT APPLICATION NUMBER: US 09/618,380C  
 13 <141> CURRENT FILING DATE: 2000-07-18  
 15 <150> PRIOR APPLICATION NUMBER: US 08/397,411  
 16 <151> PRIOR FILING DATE: 1995-03-01  
 18 <150> PRIOR APPLICATION NUMBER: US 07/859,583  
 19 <151> PRIOR FILING DATE: 1992-03-27  
 21 <160> NUMBER OF SEQ ID NOS: 14  
 23 <170> SOFTWARE: PatentIn version 3.1  
 25 <210> SEQ ID NO: 1  
 26 <211> LENGTH: 107  
 27 <212> TYPE: PRT  
 28 <213> ORGANISM: Artificial Sequence  
 30 <220> FEATURE:  
 31 <223> OTHER INFORMATION: Light chain of Humanized 1D10 Ab minus signal sequence  
 33 <400> SEQUENCE: 1  
 35 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 36 1                   5                   10                   15  
 39 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Tyr  
 40                   20                   25                   30  
 43 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Val  
 44                   35                   40                   45  
 47 Ser Asn Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe Ser Gly  
 48                   50                   55                   60  
 51 Ser Gly Ser Gly Lys Gln Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 52 65                   70                   75                   80  
 55 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His His Tyr Gly Asn Ser Tyr  
 56                   85                   90                   95  
 59 Pro Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys  
 60                   100                   105  
 63 <210> SEQ ID NO: 2  
 64 <211> LENGTH: 107  
 65 <212> TYPE: PRT  
 66 <213> ORGANISM: Mus sp.  
 68 <400> SEQUENCE: 2  
 70 Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly  
 71 1                   5                   10                   15  
 74 Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Tyr

(pg.6)

ENTERED

## RAW SEQUENCE LISTING

DATE: 07/29/2004

PATENT APPLICATION: US/09/618,380C

TIME: 09:31:19

Input Set : A:\SEQLIST4920USv3.txt

Output Set: N:\CRF4\07292004\I618380C.raw

```

75          20          25          30
78 Leu Ala Trp Tyr Gln Gln Lys Gln Gly Lys Ser Pro Gln Leu Leu Val
79          35          40          45
82 Ser Asn Ala Lys Thr Leu Ala Glu Gly Val Thr Ser Arg Phe Ser Gly
83          50          55          60
86 Ser Gly Ser Gly Lys Gln Phe Ser Leu Lys Ile Asn Ser Leu Gln Pro
87 65          70          75          80
90 Glu Asp Phe Gly Asn Tyr Tyr Cys Gln His His Tyr Gly Asn Ser Tyr
91          85          90          95
94 Pro Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
95          100          105
98 <210> SEQ ID NO: 3
99 <211> LENGTH: 116
100 <212> TYPE: PRT
101 <213> ORGANISM: Artificial Sequence
103 <220> FEATURE:
104 <223> OTHER INFORMATION: Heavy chain of Humanized 1D10 Ab minus signal sequence
106 <400> SEQUENCE: 3
108 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
109 1          5          10          15
112 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr
113          20          25          30
116 Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile
117          35          40          45
120 Gly Val Lys Trp Ser Gly Gly Ser Thr Glu Tyr Asn Ala Ala Phe Ile
121          50          55          60
124 Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Ser Leu
125 65          70          75          80
128 Lys Leu Asn Ser Leu Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
129          85          90          95
132 Arg Asn Asp Arg Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
133          100          105          110
136 Thr Val Ser Ser
137          115
140 <210> SEQ ID NO: 4
141 <211> LENGTH: 116
142 <212> TYPE: PRT
143 <213> ORGANISM: Mus sp.
145 <400> SEQUENCE: 4
147 Gln Val Gln Leu Lys Gln Ser Gly Pro Gly Leu Val Gln Pro Ser Gln
148 1          5          10          15
151 Ser Leu Ser Ile Thr Cys Thr Gly Ser Gly Phe Ser Leu Thr Asn Tyr
152          20          25          30
155 Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Leu
156          35          40          45
159 Gly Val Lys Trp Ser Gly Gly Ser Thr Glu Tyr Asn Ala Ala Phe Ile
160          50          55          60
163 Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Phe
164 65          70          75          80

```

## RAW SEQUENCE LISTING

DATE: 07/29/2004

PATENT APPLICATION: US/09/618,380C

TIME: 09:31:19

Input Set : A:\SEQLIST4920USv3.txt

Output Set: N:\CRF4\07292004\I618380C.raw

```

167 Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Met Tyr Tyr Cys Ala
168                               85                               90                               95
171 Arg Asn Asp Arg Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
172                               100                               105                               110
175 Thr Val Ser Ser
176                               115
179 <210> SEQ ID NO: 5
180 <211> LENGTH: 214
181 <212> TYPE: PRT
182 <213> ORGANISM: Artificial Sequence
184 <220> FEATURE:
185 <223> OTHER INFORMATION: Complete light chain of Humanized 1D10 Ab
187 <400> SEQUENCE: 5
189 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
190 1                               5                               10                               15
193 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Tyr
194                               20                               25                               30
197 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Val
198                               35                               40                               45
201 Ser Asn Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe Ser Gly
202                               50                               55                               60
205 Ser Gly Ser Gly Lys Gln Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
206 65                               70                               75                               80
209 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His His Tyr Gly Asn Ser Tyr
210                               85                               90                               95
213 Pro Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
214                               100                               105                               110
217 Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
218                               115                               120                               125
221 Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
222                               130                               135                               140
225 Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
226 145                               150                               155                               160
229 Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
230                               165                               170                               175
233 Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
234                               180                               185                               190
237 Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
238                               195                               200                               205
241 Phe Asn Arg Gly Glu Cys
242                               210
245 <210> SEQ ID NO: 6
246 <211> LENGTH: 273
247 <212> TYPE: PRT
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Fd-jun in F(ab'-zipper)2 of humanized 1D10 antibody
253 <400> SEQUENCE: 6
255 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu

```

## RAW SEQUENCE LISTING

DATE: 07/29/2004

PATENT APPLICATION: US/09/618,380C

TIME: 09:31:19

Input Set : A:\SEQLIST4920USv3.txt

Output Set: N:\CRF4\07292004\I618380C.raw

```

256 1          5          10          15
259 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr
260          20          25          30
263 Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile
264          35          40          45
267 Gly Val Lys Trp Ser Gly Gly Ser Thr Glu Tyr Asn Ala Ala Phe Ile
268          50          55          60
271 Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Ser Leu
272 65          70          75          80
275 Lys Leu Asn Ser Leu Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
276          85          90          95
279 Arg Asn Asp Arg Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
280          100          105          110
283 Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
284          115          120          125
287 Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
288          130          135          140
291 Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
292 145          150          155          160
295 Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
296          165          170          175
299 Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
300          180          185          190
303 Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
304          195          200          205
307 Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr
308          210          215          220
311 Cys Pro Pro Cys Lys Cys Pro Ala Gly Gly Arg Ile Ala Arg Leu Glu
312 225          230          235          240
315 Glu Lys Val Lys Thr Leu Lys Ala Gln Asn Ser Glu Leu Ala Ser Thr
316          245          250          255
319 Ala Asn Met Leu Arg Glu Gln Val Ala Gln Leu Lys Gln Lys Val Met
320          260          265          270
323 Asn
327 <210> SEQ ID NO: 7
328 <211> LENGTH: 446
329 <212> TYPE: PRT
330 <213> ORGANISM: Artificial Sequence
332 <220> FEATURE:
333 <223> OTHER INFORMATION: Complete heavy chain of Humanized 1D10 Ab
335 <400> SEQUENCE: 7
337 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
338 1          5          10          15
341 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr
342          20          25          30
345 Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile
346          35          40          45
349 Gly Val Lys Trp Ser Gly Gly Ser Thr Glu Tyr Asn Ala Ala Phe Ile
350          50          55          60

```

## RAW SEQUENCE LISTING

DATE: 07/29/2004

PATENT APPLICATION: US/09/618,380C

TIME: 09:31:19

Input Set : A:\SEQLIST4920USv3.txt

Output Set: N:\CRF4\07292004\I618380C.raw

```

353 Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Ser Leu
354 65 70 75 80
357 Lys Leu Asn Ser Leu Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
358 85 90 95
361 Arg Asn Asp Arg Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
362 100 105 110
365 Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
366 115 120 125
369 Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
370 130 135 140
373 Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
374 145 150 155 160
377 Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
378 165 170 175
381 Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
382 180 185 190
385 Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
386 195 200 205
389 Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr
390 210 215 220
393 Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe
394 225 230 235 240
397 Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
398 245 250 255
401 Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
402 260 265 270
405 Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
406 275 280 285
409 Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
410 290 295 300
413 Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
414 305 310 315 320
417 Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
418 325 330 335
421 Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
422 340 345 350
425 Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
426 355 360 365
429 Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
430 370 375 380
433 Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
434 385 390 395 400
437 Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
438 405 410 415
441 Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
442 420 425 430
445 Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
446 435 440 445
449 <210> SEQ ID NO: 8

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/618,380C

DATE: 07/29/2004  
TIME: 09:31:20

Input Set : A:\SEQLIST4920USv3.txt  
Output Set: N:\CRF4\07292004\I618380C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:14; Xaa Pos. 2,3,4,5,6,7

**VERIFICATION SUMMARY**

DATE: 07/29/2004

PATENT APPLICATION: US/09/618,380C

TIME: 09:31:20

Input Set : A:\SEQLIST4920USv3.txt

Output Set: N:\CRF4\07292004\I618380C.raw

L:767 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0